

IRG-47 (G-3): sc-390264

BACKGROUND

A distinct family of interferon- γ (IFN- γ) inducible GTPases, belonging to the GTPase superfamily, are selectively induced by IFN- γ or bacterial lipopolysaccharide (LPS) stimulation. These putative GTPases include TGTP, IRG-47, LRG-47, and IGTP, and they are involved in mediating the cellular innate immune responses. Similar to other GTPases, they contain a characteristic nucleotide-binding domain for GTP and are functionally regulated by the binding and hydrolysis of GTP. In addition, these related proteins also contain significant sequence similarity between themselves, are largely similar in size and yet they are differentially expressed. TGTP, or T-cell specific GTPase, is preferentially expressed in T-cells and is up-regulated in response to TCR cross-linking. IGTP (inducibly expressed GTPase) is expressed predominantly in macrophages, whereas IRG-47 is primarily expressed in all cells derived from B-cell lineages, and LRG-47 is highly expressed in macrophages following IFN- γ stimulation. Two additional proteins IIGP and GTP1 are expressed in mouse embryonic fibroblasts and macrophages and are likewise up-regulated by IFN- γ stimulation.

REFERENCES

- Dever, T.E., et al. 1987. GTP-binding domain: three consensus sequence elements with distinct spacing. *Proc. Natl. Acad. Sci. USA* 84: 1814-1818.
- Gilly, M. and Wall, R. 1992. The IRG-47 gene is IFN- γ induced in B cells and encodes a protein with GTP-binding motifs. *J. Immunol.* 148: 3275-3281.
- Sorace, J.M., et al. 1995. Identification of an endotoxin and IFN-inducible cDNA: possible identification of a novel protein family. *J. Leukoc. Biol.* 58: 477-484.
- Carlow, D.A., et al. 1995. Isolation of a gene encoding a developmentally regulated T cell-specific protein with a guanine nucleotide triphosphate-binding motif. *J. Immunol.* 154: 1724-1734.
- Drysdale, B.E., et al. 1996. Identification of a lipopolysaccharide inducible transcription factor in murine macrophages. *Mol. Immunol.* 33: 989-998.

CHROMOSOMAL LOCATION

Genetic locus: *Ifi47* (mouse) mapping to 11 B1.2.

SOURCE

IRG-47 (G-3) is a mouse monoclonal antibody raised against amino acids 1-85 mapping at the N-terminus of IRG-47 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IRG-47 (G-3) is available conjugated to agarose (sc-390264 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390264 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390264 PE), fluorescein (sc-390264 FITC), Alexa Fluor[®] 488 (sc-390264 AF488), Alexa Fluor[®] 546 (sc-390264 AF546), Alexa Fluor[®] 594 (sc-390264 AF594) or Alexa Fluor[®] 647 (sc-390264 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-390264 AF680) or Alexa Fluor[®] 790 (sc-390264 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

IRG-47 (G-3) is recommended for detection of IRG-47 of mouse origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

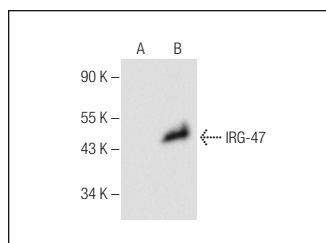
Suitable for use as control antibody for IRG-47 siRNA (m): sc-41793, IRG-47 shRNA Plasmid (m): sc-41793-SH and IRG-47 shRNA (m) Lentiviral Particles: sc-41793-V.

Positive Controls: IRG-47 (m): 293T Lysate: sc-125500.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



IRG-47 (G-3): sc-390264. Western blot analysis of IRG-47 expression in non-transfected: sc-117752 (A) and mouse IRG-47 transfected: sc-125500 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Wu, M., et al. 2022. *Toxoplasma gondii* CDPK3 controls the intracellular proliferation of parasites in macrophages. *Front. Immunol.* 13: 905142.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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